

REMARKS

The Office Action mailed on February 13, 2009, has been received and its contents carefully considered.

Claims 1-19 are pending in this application. By this Amendment, claim 1 is amended. Claims 6-19 are withdrawn as directed to nonelected species. The Abstract is amended for form to a length of less than 150 words. Reconsideration of this application in view of the above amendments and the following remarks is respectfully requested:

The Office Action objects to Fig. 4 of the Drawings, and asserts that Fig. 4 fails to show the features recited in claim 2. However, this assertion is incorrect. Specifically, Fig. 4 clearly shows every element recited in claim 2: an inner diameter of an outer ring, shown by example as D1, an inner diameter of an outer ring, shown by example as D2, and a diameter of the needle roller, shown by example as D3. A relationship between these elements in accordance with the subject matter of claim 2 is further discussed in paragraph [0037] of the disclosure of this application with respect to the illustrated elements D1, D2, and D3. It is respectfully submitted that every feature recited in claim 2 is shown at least in Fig. 4. See MPEP §608.02(d). Further, it is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue. However, the description of the article pictured can be relied on, in combination with the drawings, for what they would reasonably teach one of ordinary skill in the art. See

MPEP §2125. Here, the above noted description of the exemplary embodiment shown in Fig. 4 would reasonably teach one of ordinary skill to arrive at the subject matter of claim 2. In view of the above, it is respectfully submitted that Fig. 4 is proper. Therefore, withdrawal of the objection to claim 2 is respectfully requested.

The Office Action objects to the Specification for lacking proper antecedent basis for the subject matter of claim 4. Applicant understands this objection to assert that the Specification lacks proper support for the subject matter of claim 4. The Specification is amended to obviate this objection. Support for this amendment may be found in claim 4 as originally filed. Therefore, withdrawal of the above noted objection to the Specification is respectfully requested.

The Office Action rejects claims 1-5 under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 1 is amended to overcome this rejection. Claim 1 is therefore definite under §112. Claims 2-5 are also definite, in view of the above amendment to claim 1. Reconsideration and withdrawal of the pending rejection of claims 1-5 under §112 are respectfully requested.

The Office Action rejects claim 2 under 35 U.S.C. §101 as lacking patentable utility. This rejection is respectfully traversed. As discussed in paragraph [0028] of the disclosure of this application, even with a configuration such as that recited in claim 2, the trunnion 24 does not produce backlash in the radial direction R1 due to the configuration recited in claim 1. Further, the conical tapered surface recited in amended claim 1 provides additional patentable advantages, especially when presented with the

configuration recited in claim 2. For example, the conically tapered configuration shown in Fig. 6 may provide a more uniform distribution of force across a larger surface area of a ball than a depression of an alternative shape, for example in which a round recess is formed in a flat surface. In the claimed invention, the forces on a ball in the conically tapered structure may be distributed around a circular region defined by the portions of the ball in contact with the conically tapered surface. In contrast, when using an alternative shape, a portion in which the ball contacts the concave region would be a point at an end of the ball opposite to the direction from which a force is applied to the ball. The claimed conically tapered structure would thus be better suited to distribute forces acting on the ball and would, as a result, better reduce noise in a system. Therefore, the subject matter of claim 2 has patentable utility as discussed above. Reconsideration and withdrawal of the pending rejection of claim 2 under §101 is respectfully requested.

The Office Action rejects claims 1 and 3-5 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 1,943,814 to *Cutting* (hereinafter “*Cutting*”). The Office Action also rejects claims 1-5 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 2,063,787 to *Brown* (hereinafter “*Brown*”). These rejections are respectfully traversed.

Claim 1 recites, among other features, a ball receiving section comprising a conical tapered surface. This feature has the advantages discussed above, and is discussed and illustrated by way of example in paragraph [0027] and in Fig. 4 of the

disclosure of this application.

In contrast, *Cutting* teaches that a slight depression is formed in a disc 10, asserted by the Office Action to correspond to the ball receiving section recited in claim 1, to receive a ball 11, as discussed on p. 2, col. 1, lines 62-74, and further shown in Figs. 1, 3 and 4. However, this slight depression is not a conical tapered surface. Therefore, the *Cutting* reference cannot reasonably be considered to disclose, or to have suggested, a ball receiving section comprising a conical tapered surface, as recited in claim 1.

Further, *Brown* teaches, as shown in Figs. 12 and 13 and further discussed on p. 2, col. 2, lines 21-34, that balls 27 may be fitted into an annular groove 26, asserted by the Office Action to correspond to the ball receiving section recited in claim 1. However, this annular groove is not a conical tapered surface. Therefore, the *Brown* reference cannot reasonably be considered to disclose, or to have suggested, a ball receiving section comprising a conical tapered surface, as recited in claim 1.

Therefore, *Brown* reference cannot reasonably be considered to disclose, or to have suggested, a ball receiving section comprising a conical tapered surface, as recited in claim 1.

In view of the above, none of the applied references can reasonably be considered to disclose, or to have suggested, the combination of all of the features recited in claim 1. Claims 2-5 are also allowable, at least for their dependence on

allowable independent claim 1, as well as for the separately patentable subject matter that each of these claims recites.

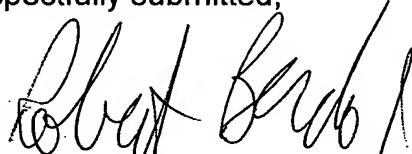
Accordingly, reconsideration and withdrawal of the pending rejections of the Office Action under 35 U.S.C. §§102 and 103 are respectfully requested.

It is submitted that this application is in condition for allowance. Such action and the passing of this case to issue are requested.

Should the Examiner feel that a conference would help to expedite the prosecution of this application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

Should any fee be required, however, the Commissioner is hereby authorized to charge the fee to our Deposit Account No. 18-0002, and advise us accordingly.

Respectfully submitted,



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April 29, 2009

Date

RHB/ARK/pq

Attachment:

Replacement Abstract (clean copy)

REPLACEMENT ABSTRACT:

Please replace the Abstract with the following amended Abstract:

A universal joint (4; 6) ~~comprises~~ includes an outer ring (28) held in a fitting hole (25) of a yoke (20; 21) and supporting a trunnion (24) so as to be rotatable with a needle roller (27) sandwiched therebetween. The outer ring (28) comprises a main body (281) fitted in the fitting hole (25) and a closed end (282) provided at one end in the main body (281). ~~body.~~ The trunnion (24) ~~comprises~~ includes an end surface (24a) having a ball holding hole (29; 29A) formed thereon. A ball receiving section (31; 31A) for elastically receiving a ball (30) held in the ball holding hole (29; 29A) is provided at the closed end (282) of the outer ring (28). ~~ring.~~ The ball receiving section (31; 31A) ~~comprises~~ includes either one of a conical tapered surface (31) and a concavely-curved surface (31A). ~~surface.~~ The radius of curvature (Rb) of the concavely-curved surface (31A) is larger than the radius (Ra) of the ball (30). ~~ball.~~